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**Wildlife  
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## WILDLIFE SERVICES—GUAM

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### USDA Resolves Wildlife Conflicts in Guam

Every day, Guam residents, industries, organizations, and agencies call on Guam Wildlife Services (WS) for expertise in protecting agriculture, property, natural resources, and human health and safety from damage or threats posed by wildlife. Managed by professional wildlife biologists, WS responds with effective and humane strategies to resolve wildlife conflicts.

The brown tree snake (BTS), a non-native, invasive species on the island of Guam, has caused severe economic and environmental problems and public health concerns for the island's residents and industries. The BTS has eliminated most of Guam's native forest birds and lizards. This dramatic wide-scale destruction of native species is unprecedented in modern ecological history. Snakes contacting electric power transmission lines have caused frequent power outages, resulting in millions of dollars in damage and lost revenue. Livestock producers have suffered losses from snakes preying on poultry and other small animals. Children and people sensitive to the snake's mild venom are threatened by the large number of snakes inhabiting urbanized areas on the island. Even more significantly, BTS originating from Guam have been found throughout the Pacific region, associated with outbound commercial and military air and sea cargo. The abundance of snakes on Guam,



coupled with the tendency of the BTS to hide in cargo, create a significant threat to the biodiversity and economic security of the tropical Pacific.

At the inception of WS BTS project in 1993, little was known about the dynamics of BTS biology or its impacts on Guam. Through more than eleven years of cooperative research and WS direct assistance, much has been learned. This experience has led to the development of effective management protocols and techniques.

### Top 7 Major Assistance Activities:

- Interdiction activities to prevent the inadvertent spread of the BTS to other Pacific Islands, Hawaii, and the U.S. Mainland
- Protecting endangered species including the Mariana gray swiftlet, Mariana crow, and the Mariana fruit bat
- Species restoration activities involving large-scale BTS control from areas designated for the re-establishment of the Guam rail and Micronesian kingfisher
- Protection of Guam's power infrastructure, including control at 15 individual substations located throughout the island
- Coordination of initial design and monitoring processes for snake barriers at ports of exit
- Wildlife hazard management activities to prevent birds from striking aircraft
- Feral pigeon removal at commercial and residential facilities

### Top 4 WS Research Projects of Interest to Guam:

- On-going research and development supported by the Guam WS program
- BTS trap design and strategies
- Development of oral toxicants
- Evaluation of other control methods and strategies

### Applying Science & Expertise to Wildlife Challenges

In many instances, WS enables others to resolve wildlife conflicts through *technical assistance*, by providing information or equipment. However, when resolving these conflicts is beyond the means of the individual, WS provides *direct assistance* to manage wildlife damage where it is occurring. WS also conducts *scientific research* across the nation to develop answers to new problems posed by wildlife and to ensure that WS Specialists apply state-of-the-art science and technology.

While WS conducts a wide range of operational and research activities, a few in-depth examples are provided to highlight WS role in endangered species protection and restoration and BTS interdiction.

### Protecting Endangered Species and Species Restoration—

The role of WS in endangered species protection and restoration on Guam continues to develop. In cooperation with the U.S. Fish and

The second endangered species project, initiated in April 2000, is being conducted in cooperation with Andersen Air Force Base (AAFB) and the Department of Defense. WS operates approximately 1,000 traps to remove snakes in the Munitions Storage Area (MSA) at AAFB. The work supports efforts to recover native Guam wildlife, including Federally endangered Mariana crows, Guam rails, and Micronesian kingfishers. Beginning in May 2001, WS began integrating the use of acetaminophen (the active ingredient in many over-the-counter pain medications), which research has shown to be an effective oral toxicant for the BTS. As of October 1, 2004, nearly 10,000 snakes have been removed from the MSA via traps and toxicants.

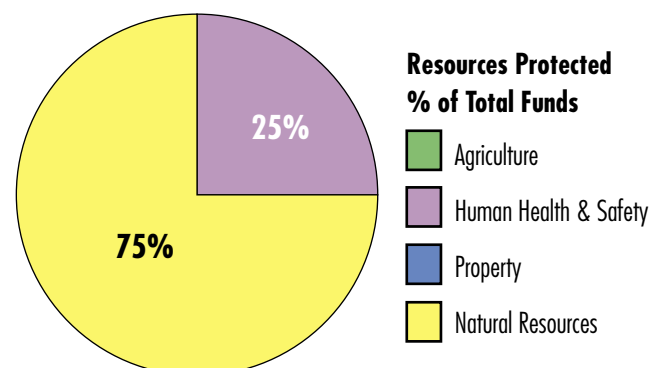
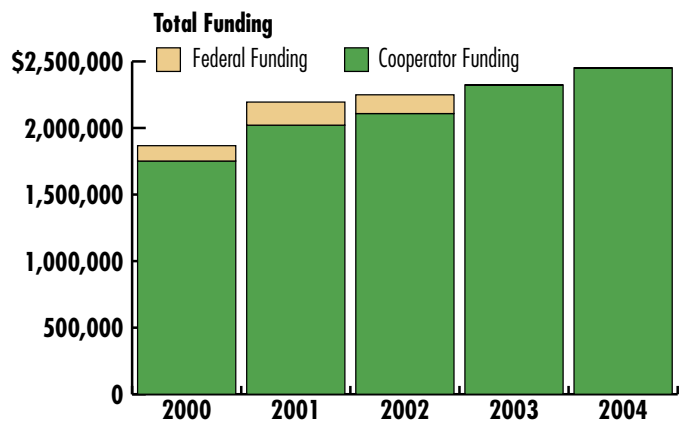
**Protecting Multiple Resources Through Brown Tree Snake Interdiction**—WS primary mission on Guam is to prevent BTS from reaching other topical islands and the United States Mainland. Since the inception of the BTS project in 1993, WS staffing on Guam has grown to 38 full-time employees, including 9 canine teams, and 4 additional employees working at a trap manufacturing shop in Washington. Containment efforts are focused at all commercial and military air and sea ports of exit, and 31 commercial freight forwarding warehouses. BTS populations around cargo and port facilities are reduced using specially designed snake traps and through hand capture of snakes along surrounding security fences. Specially trained detector dogs are also used to inspect outbound cargo for any snakes that may have made their way into shipments.

- U.S. Department of Defense
- U.S. Navy, COMNAVMAR
- U.S. Air Force, Andersen Air Force Base
- U.S. Department of Interior - Office of Insular Affairs
- U.S. Fish and Wildlife Service
- Government of Guam, Division of Aquatic and Wildlife Resources
- Guam Power Authority
- Port Authority of Guam
- Guam International Airport Authority
- Thirty-one privately-owned freight forwarding companies.

## Looking to the Future

## Guam Wildlife Services Funding

WS operates a cooperatively funded program. In addition to federally allocated funds, the program also receives funding from cooperators, including producers, private individuals, small businesses, and other Federal, State, and local government agencies that have a vested interest in the program. In most cases, these cooperators are in need of assistance to help resolve wildlife damage problems or they have an interest in wildlife damage management.



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